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AMENDMENT - Claims

Please amend cancel claims 1-382 and amend claims 383 and 388-390, as follows:

1-382. (canceled)

383. (currently amended) A method of identifying a T cell specific for an antigen of interest, comprising:

a) contacting a biological sample containing T cells suspected of being specific for ~~the~~ an antigen of interest with an artificial antigen presenting cell that presents a peptide derived from the antigen of interest in order to form a complex comprised of a T cell specific for the antigen of interest and an artificial antigen presenting cell that presents the peptide derived from the antigen of interest, wherein the artificial antigen presenting cell comprises:

i. a liposome comprising a lipid bilayer, wherein the lipid bilayer is comprised of neutral phospholipids and cholesterol;

ii. at least one GM-1 ganglioside molecule disposed in the lipid bilayer;

iii. a cholera toxin ß subunit bound to one of the ~~a~~ GM-1 ganglioside molecules;

iv. an MHC ~~component~~ molecule loaded with the peptide derived from the antigen of interest, wherein the antigen-loaded MHC ~~component~~ molecule is bound to the cholera toxin ß subunit; and

v. an accessory molecule that can stabilize an interaction between a T cell receptor and the antigen-loaded MHC ~~component~~ molecule; and

b) detecting the complex, if formed, thereby identifying a T cell specific for the antigen of interest.

384. (previously presented) A method according to claim 383 wherein the neutral phospholipids are phosphotidylcholine.

385. (previously presented) A method according to claim 383 further comprising the step of isolating from the complex the T cell specific for the antigen of interest.

386. (previously presented) A method according to claim 385 further comprising the step of characterizing a functional phenotype of the isolated T cells.

387. (previously presented) A method according to claim 383 wherein the biological sample is selected from the group consisting of whole blood, blood cells, blood plasma, and tissue.

388. (currently amended) A method according to claim 383 wherein the peptide derived from the antigen of interest is selected from the group consisting of ~~a peptide,~~ a peptide derived from a recipient of a graft, a cancer cell-derived peptide, a peptide derived from an allergen, a donor-derived peptide, ~~a pathogen-derived molecule,~~ and a peptide derived by epitope mapping~~, a self-derived molecule, and a self-derived molecule that has sequence identity with a pathogen-derived antigen~~.

389. (currently amended) A method according to claim 383 wherein the artificial antigen presenting cell also comprises a label.

390. (currently amended) A method according to claim 389 wherein the label is bound to a molecule of the artificial antigen presenting cell selected from the group consisting of a neutral

phospholipid, ~~a~~ cholesterol ~~molecule~~, a GM-1 ganglioside molecule, a cholera toxin ß subunit, an MHC ~~component~~ molecule, the peptide derived from the antigen of interest, and an accessory molecule.

391. (previously presented) A method according to claim 389 wherein the label is selected from the group consisting of biotin, vancomycin, a fluorochrome, FITC, and a radiolabel.

AMENDMENT – Application Title

Please cancel the title of the application and replace it with the following:

METHODS FOR IDENTIFYING AND ISOLATING ANTIGEN-SPECIFIC T CELLS